

## **REMARKS**

The issues outstanding in the office action of February 17, 2010, are the rejections under 35 U.S.C. 112, 102 and 103. Reconsideration of these issues, in view of the following discussion, is respectfully requested. The Examiner is sincerely thanked for consideration of the proposed amendment, and the helpful discussion thereon. The proposed amendment is again presented formally for consideration herewith. The Examiner's helpful comments concerning claims 15 and 16 are appreciated, and have been taken into account in the present amendment.

### **Rejection Under 35 U.S.C. 112**

Claims 1-6, 8-26, 28-31 and 36-44 have been rejected under 35 U.S.C. 112, second paragraph. Reconsideration of this rejection is respectfully requested.

It is argued, at page 3 of the office action, that it is unclear in claim 1 whether a precursor mixture or a precursor suspension is formed, in view of inconsistency in the language. Moreover, it is argued that there is no antecedent basis for "precursor mixture or suspension." Claim 1 has been clarified in order to indicate that the "precursor mixture or suspension" in (a) is then dispersed or milled in (b), and then reacted in (c). In addition, the term "precursor mixture or suspension" has been used consistently throughout where appropriate. Withdrawal of the rejection is accordingly respectfully requested.

### **Rejection Under 35 U.S.C. 102**

Claims 41-44 have been rejected under 35 U.S.C. 102(e) or in the alternative 103 over Wurm or Barker '026 or '935. Reconsideration of this rejection is again respectfully requested. In order for there to be an inherent anticipation, the courts have held that the material must "necessarily and inevitably" be produced by the process claimed. In order for a reference which neither expressly describes or teaches the subject matter alleged to anticipate, the reference must provide enough information to permit an inference that the subject matter is inherent. See, for example, *Ex parte Garvin*, 62 USPQ 2d 1680 (BPAI 2001). Moreover, inherency must be a necessary result, and not merely a possible result. See *In re Oelrich*, 666 F2d. 578, 212 USPQ 323 (CCPA 1971).

As discussed below, in connection with the process claims, it is not possible to get the claimed particle size *and* narrow particle distribution without the use of the process of claim 1 involving the specific milling steps and a hydrothermal treatment (which, as noted above, is not disclosed in Wurm). In order to further clarify that this is the case, product-by-process claims have been amended in order to recite both the particle size, and particle size distribution (specifically, the difference between the D90 and D10 values of no more than 2 microns). Accordingly, it is respectfully submitted that the product-by-process claims are not inherently anticipated and thus that the rejection should be withdrawn.

### **Rejection Under 35 U.S.C. 103**

Claims 1-6, 8-26, 28-31 and 36-40 are rejected under 35 U.S.C. 103 over Wurm taken with Barker '026 or '935. Reconsideration of this rejection is again respectfully requested. As will be recalled, Wurm discloses a process for the production of  $\text{LiFePO}_4$ , involving dissolving precursor ions, producing a precipitate thereof, decomposing the precipitate at temperatures up to  $500^\circ\text{C}$ , annealing the decomposed product at less than  $800^\circ\text{C}$ , and obtaining the product. See paragraphs 9-13. However, this published application does not disclose the use of hydrothermal conditions to produce the product (as admitted at page 2 of the Office Action) and also does not disclose dispersing or milling the *precursor mixture or suspension* until the D90 value of the particles of the precipitate are less than 50 microns. Wurm does not disclose the size of the product subsequent to the decomposing step, at best disclosing that materials with a size of less than one micron are produced subsequent to annealing. See paragraph 20. Instead, the present invention is based on the discovery that the use of the dispersing/milling step to produce a D90 less than 50 microns, coupled with hydrothermal treatment, results in a material which produces not only small particle size but also a small particle size distribution. The two Barker disclosures, disclosing methods for forming transition metal phosphates and indicating that hydrothermal treatments are useful in the production of various organic materials, do not remedy the deficiency of the primary reference. The Applicants in either Barker application do not teach that the coupling of hydrothermal treatment along with dispersion or milling can result in such a material having a particle size *and* distribution which are both small. As a result, it is submitted

that one of ordinary skill in the art viewing these references would not be motivated to use both hydrothermal treatment coupled with dispersion or milling, inasmuch as the present advantageous small particle size and small particle distribution is not taught by the references.

The office action indicates there is allowable subject matter (see page 4) and indicates also in the first full paragraph on page 4 that “the claims do not require that the reaction under hydrothermal conditions recited in step (c) be with respect to the precursor mixture or suspension formed in step (b).” However, this is clearly the case and the claims are now clarified to unequivocally indicate same. It appears that this should eliminate the rejection under 35 U.S.C. 103 in view of prior argument. Specifically, the Wurm process does not get a small particle size *and* small particle distribution.

Accordingly, it is respectfully submitted that these references do not suggest the present claims, and withdrawal of this rejection is respectfully requested.

The claims of the application are submitted to be in condition for allowance. However, if the Examiner has any questions or comments, he is cordially invited to telephone the undersigned at the number below.

The Commissioner is hereby authorized to charge any fees associated with this response or credit any overpayment to Deposit Account No. 13-3402.

Respectfully submitted,

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